Weather and Climate

Yukon-Charley Rivers Winter 2012-2013 Weather Summary

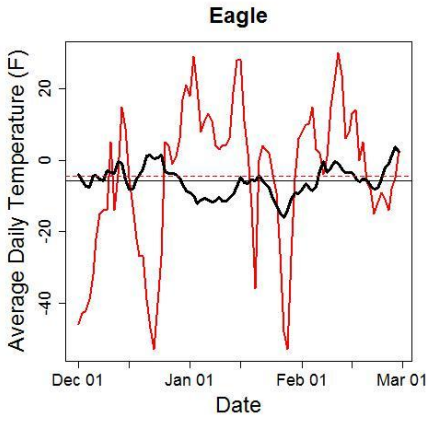
What is Normal?

"Normals" are used to place recent climate conditions into historical context. It takes 30 years of continuous weather data at one location to calculate what makes temperatures or precipitation amounts "normal". The latest normal period is 1981-2010.

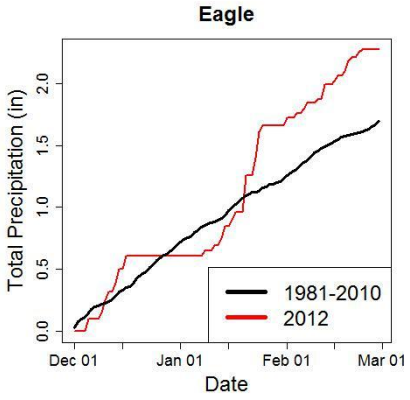
The weather station in Eagle has been in operation since 1922, and while there are data gaps in the early decades, the record for the past 60+ years has been good. This site provides a valuable long-term record for Yukon-Charley and is a good index site to use for climate comparisons.

In Eagle, winter 2012 started out much colder and drier than normal. The average temperature for December was 12.1° F colder than normal. The total precipitation for the month was only 0.61 inches, normal is 0.69 inches. The temperatures warmed substantially in January with an average monthly temperature of 0.3 °F, 9.8° F above the 1981-2010 normal. However, a cold snap towards the end of the month produced the lowest temperature of the season: -57 °F on January 28th. The total precipitation for January was 1.05 inches, almost double normal. Most of this occurred January 21-25 when over 14 inches of snow fell. Temperatures remained warmer than normal for the month of February. The monthly average was 6.8 °F warmer than normal. Snowfall was about average, but precipitation (water equivalent) was 130% of normal for February.

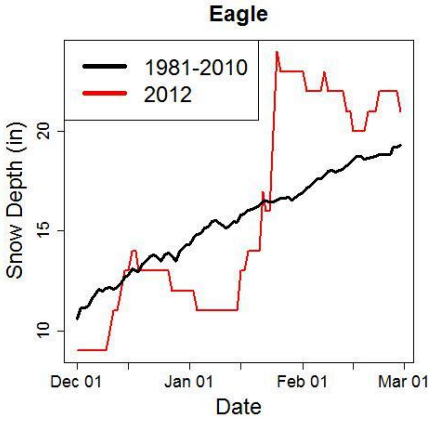
Eagle – Average Air Temperatures



Eagle – Cumulative Precipitation



Eagle – Cumulative Snow Depth



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Eagle Weather Records:
Climate Normal Period 1981 – 2010
Climate Record Period 1949 – 2013

Temperature

Winter 2012 - 2013	Average Monthly Temp °F	1981-2010 Normal °F	Departure from Normal °F	Monthly High °F / Date	Monthly Low °F / Date
December	-16.1	-4.0	-12.1	28 / Dec 31	-54 / Dec 22
January	0.3	-9.5	+9.8	32 / 14	-57 / Jan 28
February	3.4	-3.7	+6.8	35 / Feb 11	-28 / Feb 26

Winter Season Temperature Departure from Normal: +1.5°F

Precipitation

Winter 2012 – 2013	Total Monthly Precip. in.	1981-2010 Normal in.	Departure from Normal in.	Greatest 24 –hr. total in. / Date	# Days with >=0.01 in. water
December	0.61	0.69	- 0.08	0.11 / Dec 12	7
January	1.05	0.53	+ 0.52	0.30 / Jan 21	11
February	0.61	0.47	+ 0.14	0.12 / Feb 12	13

Winter Season Departure from Normal: +0.58 inches

Snowfall

Winter 2012 – 2013	Total Monthly Snowfall in.	1981-2010 Normal in.	Departure from Normal in.	Greatest 24 – hr. snowfall total in. / Date	2012-13 snowfall from July 1 in.	Normal Snowfall from July 1 - in.	Snow Depth End of Month In.
December	7	12	-5	2.0 / Dec 12	32.5	36.5	12
January	19.3	8	+ 11.3	5.5 / Jan 25	51.8	44.5	23
February	8.2	8	+ 0.2	1.5 / Feb 7	60.0	52.5	21

As part of the climate monitoring vital sign, additional NPS climate stations were installed in the preserve to complement the long-term record available from the National Weather Service station in Eagle. These additional sites provide critical data that help characterize the climate gradients and patterns affecting resources in Yukon-Charley Rivers National Preserve.

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Yukon-Charley Rivers Remote Automated Weather Station (RAWS) summaries:
Winter 2012-13

Site	Elev. Ft.	Average Temp °F Dec	Jan	Feb	Winter 2012 -13 Avg. Temp °F	Extremes °F High	Low	Snow Depth In. *	Peak Wind mph	High T – Low T °F **
Coal Creek	870	-21.0	-5.6	-4.0	-10.2	35	-54	m	10	89
Upper Charley River	3654	-9.5	m	3.9	m	25	-34	20	19	59

* Snow depth on Feb 28th; ** Difference between the high and low temperature for season; ***Ben Creek is not transmitting

Interesting notes from RAWS stations:

- The temperature inversion is quite apparent through the winter with the average temperature at the higher elevation site in the Upper Charley typically 10-15 degrees warmer than the river valley site at Coal Creek.
- Although January is typically the coldest month of the winter season, it was the warmest month at all YUCH stations for winter 2012-2013.
- There were intermittent data transmissions in January at the Upper Charley River site, despite having good battery voltage. The data are stored in the datalogger on site and will be downloaded and available after the field season.

Climate Station near Coal Creek Camp

Connecting Further

New paper published – The First Decade of the New Century: A Cooling Trend for Most of Alaska

Central Alaska Network climate monitoring vital sign

Access near real-time data from Western Regional Climate Center and MesoWest

Check out the 3 month weather outlook from the NOAA Climate Prediction Center

Statewide summary of weather highlights in the latest Climate Dispatch from the Alaska Center for Climate Assessment and Policy

Map of projected temperature and precipitation changes in Yukon-Charley Rivers National Preserve.

Please Note: The summarized data are preliminary and have not undergone final quality control. Therefore, these data are subject to revision.

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